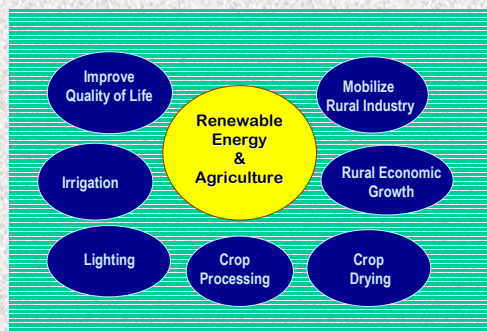


# Office of Energy, Environment & Technology United States Agency for International Development (USAID) Renewable Energy and Agriculture



## USAID: Meeting the Challenge



## Wind Pumping in Indonesia

Irrigation is the second most energy intensive activity in agriculture, following fertilization. In many parts of the world, gravity flow techniques cannot irrigate large tracts of land. Small, renewable-energy powered motor and pump sets play a critical role in irrigating farms.

*A farmer and his children on the Island of Sumba, Indonesia, frolic in the spray of the farm's irrigation system. Water for the impact sprinklers is pumped from a well using a Bergey WindPower, 10-kilowatt wind turbine. The sprinklers supply water to two fields and the farm's livestock. The farmer and his family also use the pumping system's water to bathe and wash clothes.*



Wind-powered irrigation in Indonesia

Photo: Winrock International



Solar and biomass-fired crop drying and processing in Guatemala  
Photo: Winrock International

## Small-Scale Drying and Processing in Guatemala

Crop drying and processing is particularly important to small farms—processed crops usually fetch a higher market price. Solar and biomass-fired crop dryers offer efficient and effective techniques for small-scale drying and processing.

*This coffee farmer picks shade-grown coffee on a cooperative in Guatemala. The coffee cooperative uses renewable energy to improve processing facility energy consumption. The cooperative formed a partnership with Fundacion Solar, Winrock International, and Guatemala's National Association of Coffee Producers. The partnership will study linkages between trading carbon permits and the sustainability of small-scale coffee production chains in Central America.*

## Mexico Renewable Energy Initiative

This joint USAID/DOE initiative aims to increase the appropriate and sustainable use of renewable energy technologies in Mexico. To date, the program has installed more than 400 pilot systems. These include photovoltaic and wind-turbine installations to power water pumping for ranch communities, livestock, crop and pasture irrigation, as well as power electric fencing. Each installation has been an integral part of a local training workshop. These workshops have trained more than 1,600 engineers, suppliers, and decision makers in renewable energy technologies. Over 40 renewable energy companies, both U.S. and Mexican, have participated in the program.

The Mexico Renewable Initiative has been integrated into the U.S./Mexico Bi-National Agreement for Energy Cooperation.



Pilot agriculture projects in Mexico  
Photo: New Mexico State University